

Taxonomic notes on *Mythimna (Hyphilare) hamifera* (Walker) and *Mythimna (Hyphilare) exsanguis* (Guenée) (Lepidoptera, Noctuidae) with description of a new subspecies

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Abstract Morphological differences between *M. (H.) hamifera* (Walker) and *M. (H.) exsanguis* (Guenée), two distinct species, are discussed. Lectotypes of *M. (H.) hamifera*, *M. (H.) exsanguis*, *M. (H.) inframicans* (Hampson) and *M. (H.) subnitens* (Swinhoe) are designated. *M. (H.) preyri* (Leech) and *M. (H.) inframicans* are considered to be junior synonyms of *M. (H.) hamifera*. A new subspecies, *M. (H.) exsanguis hiraii* subsp. nov., is described.

Key words Lepidoptera, Noctuidae, *Mythimna (Hyphilare) exsanguis hiraii* subsp. nov., *Mythimna (Hyphilare) hamifera*, *Mythimna (Hyphilare) inframicans*, *Mythimna (Hyphilare) preyri*, Philippines.

Introduction

In this paper, the generic name *Mythimna* is used in the wider concept as used in Yoshimatsu (1994), dividing it into subgenera, and linking *Aletia* to the subgenus *Mythimna*. *Mythimna (Hyphilare) preyri* (Leech, 1900) was described from Japan and also known to be distributed in China and Taiwan (Yoshimatsu, 1994). *Mythimna (Hyphilare) hamifera* (Walker, 1862) was described from Sarawak, Borneo. *Mythimna (Hyphilare) inframicans* (Hampson, 1893) was described from Sri Lanka. By examining the types of *preyri*, *hamifera*, *inframicans* and other specimens from various regions of Asia, it was revealed that the three were conspecific. Namely, *preyri* and *inframicans* are junior synonyms of *hamifera*.

Calora (1966) recorded *Aletia exsanguis* and *Aletia hamifera* as two separate species from the Philippines. Yoshimatsu (1994) considered *M. (H.) exsanguis* (Guenée, 1852) as a close relative to *preyri* (now *hamifera*), illustrating the adult, male and female genitalia. Males of both taxa, having silvery scales on the underside of both wings, are distinguishable by slight differences of the forewing markings (Figs 1-5). However, as their male genitalia are nearly identical, the identity of the two taxa had been still in a confusion. Holloway (1989), stating that it is impossible to confirm the differences Calora (1966) observed between the two, treated *hamifera* as a synonym of *exsanguis* and recorded Bornean specimens as *exsanguis*. However, from his figures of a rubbed specimen and genitalia of male only, I can not say now whether they were representing *exsanguis* or *hamifera*.

The examination of the type of *hamifera* confirmed me it is distinct from *exsanguis*. Lectotypes of *hamifera*, *exsanguis*, *inframicans* and *M. (H.) subnitens* (Swinhoe) will be designated in the following lines. From illustrations and descriptions, the identification of *hamifera* by Calora (1966) seems to be right. However, the forewing of *exsanguis* from the Philippines does not have the oblique fuscous stria running from the apex to the basal portion and is almost uniform ochreous white, lightly flecked with fuscous (Fig. 5), unlike

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that of the population from other regions (Fig. 3). Thus the Philippine taxon is described as a new subspecies in this paper.

Descriptions

Mythimna (Hyphilare) hamifera (Walker), **sp. rev. & comb. nov.** (Figs 1, 2, 6-8, 11, 12)

Leucania hamifera Walker, 1862, *J. Proc. Linn. Soc. (Zool.)* **6**: 179.

Leucania inframicans Hampson, 1893, *Illust. typical Specimens Lepid. Heterocera Colln Br. Mus.* **9**: 16, 90, pl. 161, fig. 2. **Syn. nov.**

Leucania pryeri Leech, 1900, *Trans. ent. Soc. Lond.* **1900**: 128. **Syn. nov.**

Aletia hamifera: Calora, 1966, *Philipp. Agric.* **50**: 679-682, figs 14, 44, 73.

Aletia hamifera: Poole, 1989, *Lepid. Cat. (New Series)* **118**: 63.

Aletia inframicans: Yoshimoto, 1994, *In Haruta, T. (ed.), Tinea* **14** (Suppl. 1): 105, pl. 84, fig. 11.

Mythimna (Hyphilare) pryeri: Yoshimatsu, 1994, *Bull. natn. Inst. agro-envir. Sci.* **11**: 244-249, figs 96, 97, 140F.

Lectotype designations. Lectotype of *Leucania hamifera* Walker: ♀, Borneo, Sarawak, Type Lep. No. 1320, preserved in University Museum, Oxford University. Lectotype of *Leucania inframicans* Hampson: ♂, Sri Lanka, Pundaloya, Aug., Noctuidae genitalia slide No. 3171, preserved in The Natural History Museum, London.

Specimens examined. [India] W. Bengal, Purulia, 1 ♀, ix. 1968, G. Pallesen. [Nepal] E. Nepal, Mechi Ilam, Godok 400 m, 1 ♂ 1 ♀ (11-18. vi. 1993) and 2 ♀ (21-22. iv. 1993), M. S. Limbu. [Thailand] Trad, Kao Saming, 1 ♂, 16. viii. 1981, H. Kuroko, S. Moriuti, Y. Arita & Y. Yoshiyasu; Chantaburi, Plew Chantaburi, 1 ♂, 16. viii. 1981, H. Kuroko, S. Moriuti, Y. Arita & Y. Yoshiyasu; Chiang Mai, Fang, 1 ♂, 17. vii. 1981, H. Kuroko, S. Moriuti, Y. Arita & Y. Yoshiyasu; Chaiphum, Chulabhorn Dam, c. 700 m, 2 ♂, 14. viii. 1987, S. Moriuti, T. Saito, Y. Arita & Y. Yoshiyasu. [China] Linping, Pr. Kwangtung, 1 ♂, 2. vii. 1924, H. Höne. [Java] Batavia, 1 ♀, xii. 1815, Mus. Westerm. [Japan] 1 ♂, holotype of *Leucania pryeri* Leech, Japan; Noctuidae genitalia slide No. 3172; preserved in The Natural History Museum, London; 18 ♂ 4 ♀, for detailed data see Yoshimatsu (1994). [Taiwan] 3 ♂ 2 ♀, see Yoshimatsu (1994).

Distribution. Sri Lanka, Nepal, India, Thailand, China, Taiwan, Japan, Java and Borneo.

Remarks. The description of this species was already given by Yoshimatsu (1994) under the name of *pryeri*. Forewing of this species possesses a prominent white streak on distal half of median nervure, but in *exsanguis* it is indistinct and almost same as ground colour. Their male genitalia are nearly identical except a slight difference in the vesica, which is slightly longer in *hamifera*. The female genitalia propose a good criterion to distinguish these two species. In *hamifera*, cervix bursae forms tubular structure near ductus seminalis, but in *exsanguis* that portion is only bulged, never becoming a tube. In addition, ductus seminalis arises from left lateral portion of cervix bursae in *hamifera*, but it does from dorsal portion in *exsanguis* (Figs 11-14). Type specimens of *hamifera*, *inframicans* and *pryeri* are shown in Figs 6-8. *M. (H.) panarista* Fletcher, 1963, having a nearly pure white hindwing, is a close relative known from Nigeria.

Mythimna (Hyphilare) exsanguis (Guenée) (Figs 3, 4, 9, 10, 13, 14)

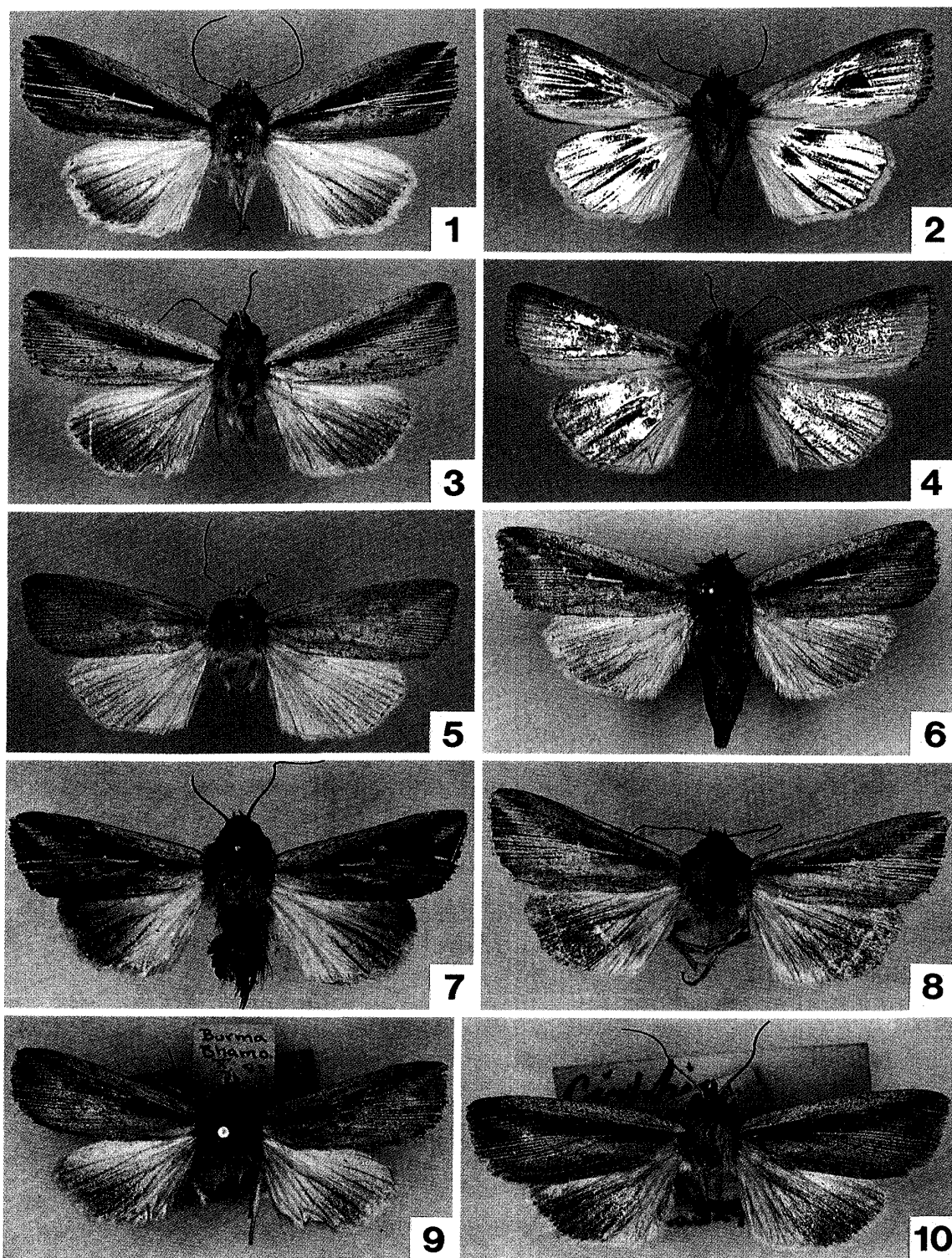
Leucania exsanguis Guenée, 1852, *in Boisduval & Guenée, Hist. nat. Insectes (Lépid.)* **5**: 83.

Leucania subnitens Swinhoe, 1890, *Trans. ent. Soc. Lond.* **1890**: 218.

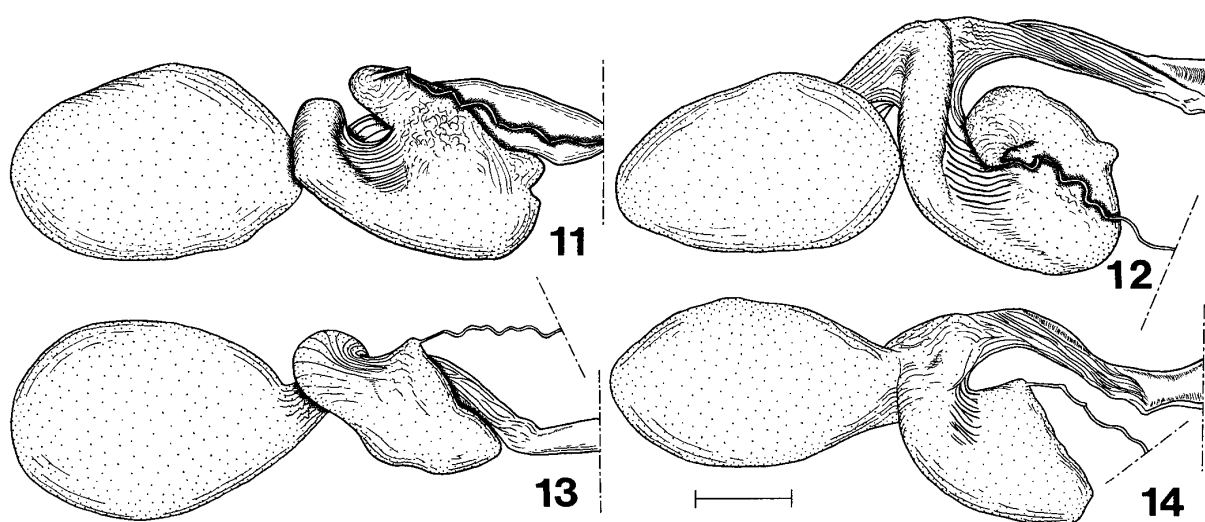
Cirphis subdecora Wileman, 1912, *Entomologist* **45**: 147.

Hyphilare duplicata, var. *limbopuncta* Strand, 1920, *Arch. Naturgesch.* **84A** (12): 104.

Aletia exsanguis: Poole, 1989, *Lepid. Cat. (New Series)* **118**: 62.



Figs 1-10. *Mythimna (Hyphilare)* spp. 1-2. *M. (H.) hamifera* (Walker), ♂. 1. Upper-side. 2. Underside. 3-4. *M. (H.) exsanguis* (Guenée), ♂. 3. Upperside. 4. Underside. 5. *M. (H.) exsanguis hiraii* subsp. nov., holotype, ♀. 6. *M. (H.) hamifera* (Walker), lectotype, ♀. 7. *M. (H.) inframicans* (Hampson), lectotype, ♂. 8. *M. (H.) pryeri* (Leech), holotype, ♂. 9. *M. (H.) subnitens* (Swinhoe), lectotype, ♂. 10. *M. (H.) subdecora* (Wileman), holotype, ♂.



Figs 11-12. Female genitalia in part (corpus bursae, cervix bursae, ductus seminalis and ductus bursae) of *Mythimna (Hyphilare) hamifera* (Walker). 11. Left lateral view. 12. Dorsal view.

Figs 13-14. *Ditto*. *Mythimna (Hyphilare) exsanguis* (Guenée). 13. Left lateral view. 14. Dorsal view. Scale. 1 mm.

Aletia exsanguis: Sugi, 1992, in Heppner & Inoue, *Lepid. Taiwan* 1 (2): 199.

Mythimna (Hyphilare) exsanguis: Yoshimatsu, 1994, *Bull. natn. Inst. agro-envir. Sci.* 11: 249-252, figs 98, 99, 140G.

Lectotype designations. Lectotype of *Leucania exsanguis* Guenée: ♀, Bengale, ex Oberthür Coll. Brit. Mus. 1927-3, Agrotidae genitalia slide No. 584, preserved in The Natural History Museum, London. Lectotype of *Leucania subnitens* Swinhoe: ♂, Burma, Bhamo, x. 82, 91-55, Noctuidae genitalia slide No. 3295, preserved in The Natural History Museum, London.

Remarks. Description and specimens examined of this species were already given by Yoshimatsu (1994). Holloway (1989) mentioned *exsanguis* is distributed in Indian sub-region to Taiwan, Sundaland, Philippines and Sulawesi. Type specimens of *M. (H.) subnitens* and *M. (H.) subdecora* are illustrated in Figs 9, 10. *M. (H.) cryptargyria* (Bethune-Baker, 1905) from Papua New Guinea and *M. (H.) metargyria* (Rothschild, 1915) from Seram, Indonesia, seem to be close relatives, but they are larger species.

***Mythimna (Hyphilare) exsanguis hiraii* subsp. nov. (Fig. 5)**

Aletia exsanguis: Calora, 1966, *Philipp. Agric.* 50: 682-684, figs 15, 45, 74.

Description. For full description, see *Aletia exsanguis* of Calora (1966).

Holotype. ♀, Los Baños, Philippines, 29. i. 1984, Y. Hirai

Type depository. Laboratory of Insect Systematics, National Institute of Agro-Environmental Sciences, Tsukuba, Japan.

Distribution. Philippines.

Remarks. As mentioned in the introduction, the forewing of this new subspecies from the Philippines lacks the oblique fuscous stria running from the apex to the basal portion (Fig. 5) which is usually seen in the specimens from other regions (Fig. 3). Calora (1966)

examined 3 males and 2 females of *exsanguis* from the Philippines and mentioned in the description and diagnosis the oblique fuscous stria of the forewing is not distinct and almost invisible. A male specimen illustrated by him is very similar in forewing marking to the holotype of this new subspecies I selected. So the description of *exsanguis* by Calora (1966) fully satisfies the definition of the present new subspecies.

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摘 要

ウラギンキヨトウ *Mythimna (Hyphilare) hamifera* (Walker) と *Mythimna (Hyphilare) exsanguis* (Guenée) に関する分類学的再検討と 1 新亜種の記載 (吉松慎一)

ウラギンキヨトウ *Mythimna (Hyphilare) pryeri* は文字どおり雄の前・後翅の裏面に銀色に輝く鱗粉を持つ。本種は Leech (1900) により日本の標本を基にして記載されたが、この他に中国、台湾にも分布する。 *Mythimna (Hyphilare) hamifera* は Walker (1862) によりボルネオから記載された。また、 *Mythimna (Hyphilare) inframicans* は Hampson (1893) によりスリランカ産の標本に基づき書かれた。今回、これら 3 種のタイプ標本およびアジア各地域からの標本を詳細に比較検討した結果、これらは同一種であることが判明した。すなわち今後はウラギンキヨトウに対しては *M. (H.) hamifera* (Walker) が適用される。

Yoshimatsu (1994) は「日本産および台湾産 *Mythimna* 属のレビジョン」の中で、台湾にはウラギンキヨトウに近縁の *M. (H.) exsanguis* が分布することを示した。これら 2 種は前翅の斑紋の僅かな差異により区別できるが、雄交尾器形態はほとんど同じであり、たびたびこのグループの分類は混乱を生じてきた。

Calora (1966) はフィリピンより *exsanguis* (Guenée) と *hamifera* (Walker) を認めた。Holloway

(1989) は Calora (1966) の言うような差はなかったとして *hamifera* を *exsanguis* の新シノニムとし、ボルネオからは *exsanguis* 1 種のみを認めた。著者は最近 *hamifera* のタイプ標本を借用して調べたところ、*hamifera* は *exsanguis* とは異なる種であることが判った。また、Calora (1966) の扱った *hamifera* は正しいが、彼の扱ったフィリピン産の *exsanguis* は他地域のものに見られるような前翅の翅頂から中室基部に向かって走る黒褐色条紋が無く、前翅は一様な淡黄褐色を呈しており、新亜種 *exsanguis hiraii* subsp. nov. として区別できる。Holloway (1989) が *exsanguis* として示したボルネオ産の標本は鱗粉が脱落しており、また雄交尾器しか図示されておらず、現時点では *exsanguis* なのか *hamifera* なのか同定不可能である。

M. hamifera と *exsanguis* の差異は以下の通りである。

1. 前翅の median nervure 末端 1/2 が *hamifera* では顕著な白条となるが、*exsanguis* では不明瞭。
2. 雄交尾器での区別は非常に難しいが、*exsanguis* のほうが vesica が僅かに短い。
3. 雌交尾器では cervix bursae の形態で識別できる。すなわち、*hamifera* では cervix bursae が ductus seminalis 付近で管状となるが、*exsanguis* では管状とはならない。ただしプレパラートにした場合、区別はやや困難となる。立体構造の把握が必要となってくる。

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